

Fugitive Dust

Fugitive dust means the generation of particulate matter to the extent that some portion of the material escapes beyond the property line or boundaries of the property, rights-of-way, or easement on which the source is located regardless of whether from a single operation or a number of operations. In simple terms, fugitive dust is comprised of fifty percent (50%) or more respirable dust or the dust is of such a quantity that it is visible crossing the boundary or property line of a source. A more precise definition can be found in **326 IAC 6-4-2** Emission Limitations.

Much of INDOT's construction activities can cause fugitive dust emissions. Grading, excavation and filling, cement/concrete pavement patching and widening, finishing shoulders, ditches and slopes are just a few. Reasonable precautions can prevent significant fugitive dust emissions. **326 IAC 6-4-6** states that fugitive dust from construction or demolition where **every reasonable precaution has been taken in minimizing fugitive dust emissions** is **exempted** from the fugitive dust rule. **326 IAC 6-5-4** provides examples of control measures that can be used to control fugitive dust. These include spraying with water or treating with an approved oil or chemical dust suppressant, tarping vehicles. These precautions are especially important on dry windy days. It is the contractor's responsibility to take every reasonable precaution to prevent dust from crossing the rights-of-way.

326 IAC 6-5-4 Control measures

Sec. 4. Fugitive particulate matter emissions resulting from the emission points specified in this section shall be controlled unless exempted pursuant to 326 IAC 6-5-7(d). All control measures specified in this section shall be considered reasonably available control measures (RCM). The frequency of application for all control measures shall be detailed in each control plan. No control plan shall contain control measures which violate the provisions of the Indiana statutes or the rules of any other state agency.

- (a) Paved roads, unpaved roads, and parking lots. Fugitive particulate matter emissions resulting from paved roads, unpaved roads, and parking lots shall be controlled unless exempted pursuant to 326 IAC 6-5-7(d). Sources may use one or more of the following measures:
 - (1) Paved roads and parking lots:
 - (A) Cleaning by vacuum sweeping.
 - (B) Flushing.
 - (C) An equivalent alternate measure.
 - (2) Unpaved roads and parking lots:
 - (A) Paving with a material such as asphalt or concrete.
 - (B) Treating with a suitable and effective oil or chemical dust suppressant approved by the commissioner. The frequency of application shall be on an as needed basis.
 - (C) Spraying with water, the frequency of application shall be on an as needed basis.
 - (D) Double chip and seal the road surface and maintain on an as needed basis.
 - (E) An equivalent alternate measure.
- (b) Open aggregate piles:
 - (1) Measures to control fugitive particulate matter emissions shall be required for open aggregate piles consisting of material such as, but not limited to, sand, gravel, stone, grain, and coal and which material is finer than two hundred (200) mesh size equal to or greater than one percent (1%) by weight. Open aggregate material mesh size shall be determined by the "American Association of State Highway and Transportation Officials Test Method T27-74," or other equivalent procedures acceptable to the commissioner.

- (2) Fugitive particulate matter emissions resulting from open aggregate piles consisting of such material as, but not limited to, sand, gravel, stone, grain, and coal shall be controlled unless exempted pursuant to 326 IAC 6-5-7(d). Sources may use one or more of the following measures:
 - (A) Cleaning the area around the perimeter of the aggregate piles.
 - (B) Application of a suitable and effective oil or other dust suppressant on an as needed basis.
 - (C) An equivalent alternate measure.
- (c) Fugitive particulate matter emissions resulting from outdoor conveying of aggregate material such as, but not limited to, sand, gravel, stone, grain, and coal, by equipment such as belt conveyors and bucket elevators shall be controlled unless exempted pursuant to 326 IAC 6-5-7 (d). Sources may use one or more of the following measures:
 - (1) Enclosing the conveyor belt totally on the top and sides as needed to minimize visible emissions. Also, if needed, exhausting emissions to particulate control equipment during operation of conveyor.
 - (2) Applying water or suitable and effective chemical dust suppressant at the feed and/or intermediate points as needed to minimize visible emissions.
 - (3) An equivalent alternate measure.
- (d) Fugitive particulate matter emissions resulting from the transferring of aggregate material shall be controlled unless exempted pursuant to 326 IAC 6-5-7(d). Sources may use one or more of the following measures:
 - (1) Minimizing the vehicular distance between the transfer points.
 - (2) Enclosing the transfer points and if needed exhausting emissions to particulate control equipment during the operation of the transferring system.
 - (3) Application of water or suitable and effective chemical dust suppressant as needed to minimize visible emissions.
 - (4) An equivalent alternate measure.
- (e) Fugitive particulate matter emissions resulting from transportation of aggregate material by truck, front end loaders, or similar vehicles shall be controlled unless exempted pursuant to 326 IAC 6-5-7(d). Sources may use one or more of the following measures:
 - (1) Use of completely enclosed vehicles.
 - (2) Tarping the vehicle.
 - (3) Maintaining the vehicle body in such a condition that prevents any leaks of aggregate material.
 - (4) Spraying the materials in the vehicle with a suitable and effective dust suppressant.
 - (5) An alternate measure.
- (f) Fugitive particulate matter emissions resulting from the loading and unloading operations of the material from storage facilities such as bins, hoppers, and silos, onto or out of vehicles, shall be controlled unless exempted pursuant to 326 IAC 6-5-7(d). Sources may use one or more of the following measures:
 - (1) Enclosure of the material loading/unloading area.
 - (2) Total or partial enclosure of the facility and exhausting of emissions to particulate collection equipment. Such equipment shall be approved by the board.
 - (3) Spraying with water or suitable and effective chemical dust suppressant as needed to minimize visible emissions.
 - (4) Reduction of free fall distance.
 - (5) An equivalent alternate measure.
- (g) Solid waste handling. Fugitive particulate matter emission resulting from activities involving solid waste (as defined in IC 13-7-1-2(10)) disposal shall be controlled unless exempted pursuant to 326 IAC 6-5-7(d). Sources may use one or more of the following measures:

- (1) Hauling
 - (A) Wet suppression of the material being transported.
 - (B) Hauling the material enclosed or covered.
 - (C) Minimizing the free fall distance when unloading from the particulate collection equipment and/or process equipment onto the hauling vehicle.
 - (D) An equivalent alternate measure.
- (2) Dumping
 - (A) Applying water or suitable and effective chemical dust suppressant on an as needed basis to minimize visible emissions.
 - (B) Minimizing the free fall distance of the material.
 - (C) An equivalent alternate measure.
- (h) Fugitive particulate matter emissions resulting from material handling operations such as crushing, grinding, screening, and mixing shall be controlled unless exempted by 326 IAC 6-5-7(d). Sources may use one or more of the following measures:
 - (1) Wet suppression.
 - (2) Enclosure of emission source with venting of emissions to a fabric filter.
 - (3) An equivalent alternate measure.
- (i) Provisions of this section are applicable in preventing particulate matter from escaping through building openings such as doors, windows, powered or unpowered ventilators, roof monitors, other than a stack as defined in 326 IAC 1-2-74, from sources subject to 326 IAC 6-5. However, grain elevators subject to the provisions of this section shall provide for good housekeeping and good maintenance procedures as set forth in 326 IAC 6-1-2(d)(2).
 - (1) Fugitive particulate matter emissions escaping through building openings set forth above shall be controlled unless exempted by 326 IAC 6-5-7(d). Sources may use one or more of the following measures:
 - (A) Installing a removable filter over appropriate building openings.
 - (B) Capturing emissions within the building by a proper hood system and conveying through a duct to particulate collection system approved by the commissioner.
 - (C) An in-house operating and procedure maintenance program consisting of:
 - (i) Proper maintenance of the process equipment and particulate collection system approved by the commissioner.
 - (ii) Substitution of the process equipment, material, and/or operating procedure that will minimize visible emissions.
 - (D) An equivalent alternate measure.

326 IAC 6-4-2 Emission limitations

Sec. 2. A source or sources generating fugitive dust shall be in violation of this rule (326 IAC 6-4) if any of the following criteria are violated:

- (1) A source or combination of sources which cause to exist fugitive dust concentrations greater than sixty-seven percent (67%) in excess of ambient upwind concentrations as determined by the following formula:

$$P = \frac{100 (R - U)}{U}$$

P = Percentage increase

R = Number of particles of fugitive dust measured at downward receptor site

U = Number of particles of fugitive dust measured at upwind or background site

- (2) The fugitive dust is comprised of fifty percent (50%) or more respirable dust, then the percent increase of dust concentration in subdivision (1) of this section shall be modified as follows:

$$P_R = (1.5^N) P$$

Where N = Fraction of fugitive dust that is respirable dust; P_R = allowable percentage increase in dust concentration above background; and P = no value greater than sixty-seven percent (67%).

(3) The ground level ambient air concentrations exceed fifty (50) micrograms per cubic meter above background concentrations for a sixty (60) minute period.

(4) If fugitive dust is visible crossing the boundary or property line of a source. This subdivision may be refuted by factual data expressed in subdivisions (1), (2) or (3) of this section.

326 IAC 6-4-6 Exceptions

Sec. 6. The following conditions will be considered as exceptions to this rule (326 IAC 6-4) and therefore not in violation:

- (1) Release of steam not in combination with any other gaseous or particulate pollutants unless the condensation from said steam creates a nuisance or hazard in the surrounding community.
- (2) Fugitive dust from publicly maintained unpaved thoroughfares where no nuisance or health hazard is created by its usage or where it is demonstrated to the commissioner that no means are available to finance the necessary road improvements immediately. A reasonable long-range schedule for necessary road improvements must be submitted to support the commissioner's granting such an exception.
- (3) Fugitive dust from construction or demolition where every reasonable precaution has been taken in minimizing fugitive dust emissions.
- (4) Fugitive dust generated from agricultural operations providing every reasonable precaution is taken to minimize emissions and providing operations are terminated if a severe health hazard is generated because of prevailing meteorological conditions.
- (5) Visible plumes from a stack or chimney which provide adequate dispersion and are in compliance with other applicable rules.
- (6) Fugitive dust from a source caused by adverse meteorological conditions.